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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,530	08/19/2002	Daniel Charquet	12093/887	9258

26646 7590 02/05/2004

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ONE BROADWAY  
NEW YORK, NY 10004

EXAMINER
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KEITH, JACK W

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

8

# Office Action Summary

Application No.

10/089,530

Applicant(s)

CHARQUET ET AL.

Examiner

Jack W. Keith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 11/10/2003 have been fully considered but they are not persuasive.

Applicant argues that neither Van Swam nor Grade in combination with Morel and Rebeyrolle disclose the claimed zirconium alloy. Particularly applicant points out that his zirconium alloy provides for the unexpected benefit of providing a face centered cubic configuration and a hexagonal lattice which has favorable resistance to corrosion in lithium containing water.

Applicant further points out that the incorporation of carbon in zirconium sponge (starting material in Van Swam) does not indicate the limited concentrations of carbon present in applicant's final product (zirconium alloy).

Per MPEP § 2112 wherein the examiner provides a reference teaching the product appearing to be substantially identical is made the basis of the rejection, the burden shifts to the applicant to show an unobvious difference.

As set forth in the rejections of Paper no. 10 either one of Van Swam or Grade set forth a zirconium alloy having the claimed properties with the exception of carbon and sulfur. The addition of Morel (Zr alloy having carbon additive) and Rebeyrolle (Zr alloy having sulfur additive) make up for the shortcomings of either Van Swam or Grade. Reasoning for combination of Morel are provided, i.e., carbon between 80 and 270 ppm improves mechanical properties known zirconium alloys (strength), as well as

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the reasons for the combination of Rebeyrolle, i.e., sulfur between 8 and 30 ppm improves corrosion resistance in known zirconium alloys.

The examiner within the rejection has clearly set forth how and in what manner the prior art reads on applicant's claimed inventive zirconium alloy. Applicant's arguments question the end product of the rejections (i.e., Van Swam or Grade in combination with Morel and Rebeyrolle); however, applicant provides no experimental evidence to contrary. That is the examiner has shown how the combination meets applicant's claimed inventive product, the burden shifts to applicant to prove otherwise. Merely stating unexpected results is not sufficient. For instance, applicant alleges that the ratio of  $(Nb-0.5\%)/(Fe+Cr+V)$  of either Van Swam or Grade does not fall below 3 as set forth in claim 8. Clearly, this is not the case. Basing calculations on the low and high spectrums of the contents of both Van Swam and Grade shows that the ratio in question is below 3. The addition of carbon and sulfur are well known. So it appears that the zirconium alloy in question is within the purview of the prior art. Without experimental evidence to the contrary the rejections stand.

With regard to experimental evidence and to establish unexpected results over a claimed range, applicant should compare a sufficient number of tests both inside and outside of the claimed range to show the criticality of the claimed range. See In re Hill, 284 F.2d 955, 128 USPQ 197 (CCPA 1960).

Applicant's arguments to the zirconium sponge material of Van Swam's carbon content also fall within the confines of the above. The zirconium sponge in question is a "nuclear grade" material and therefore more stringent than a "commercial grade"

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material. Applicant states that the end product of Van Swam does not indicate the carbon content as being that of the starting material. True, however, the burden lies on the applicant to prove that the starting sponge material does not possess the end claimed carbon content. From the specification it is not clear how and in what manner applicant's starting material is different from that of Van Swam (other than sulfur). Does applicant's process of producing the end product result in the claimed carbon content only or does the end product of Van Swam possess the claimed carbon content as well? Applicant is claiming a product and the product of Van Swam in combination with Morel and Rebeyrolle meets the claimed inventive concept.

The rejections of paper no. 10 are herein incorporated by reference.

### ***Conclusion***

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack W. Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday-Friday 6:30-4 p.m., with First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jack W. Keith  
Examiner  
Art Unit 3641

jwk  
February 3, 2004